LSI CATALOG

Third Edition

8970 North 55th Street
P.O. Box 23956
Milwaukee, WI 53223

All LSI products are distributed on an "AS IS" basis. No guarantee or warranty is expressed or implied.
Prices and specifications are subject to change without notice.

The Basic Answer

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

The BASIC Answer (TBA) is a text pre-processor utility for writing BASIC programs. It allows the programmer to construct a BASIC program in a structured manner, without line numbers. "Source" code for TBA can be created with almost any word processor or text editor. In a pinch, even the BASIC interpreter can be used to generate source code.

TBA utilizes labels for transferring control to procedures rather than line numbers. Branching is done via these labels instead of line numbers (for example: GOSUB @SORT.NAMES or even GOTO @ASK.FOR.ANSWER). Because line number references are no longer significant, whole blocks of code may be moved or relocated without worrying about line numbers.

TBA supports variable names of up to fourteen alphanumeric characters (For example: time.delay%). These "long" variable names are then automatically reduced to unique two-character names during processing. At the same time, all label references are resolved to line numbers, and TBA outputs a file that may be directly loaded and run by the BASIC interpreter. The compression of variable names and removal of remark statements from the output code maximizes both the speed and memory efficiency of the resulting program. The "source" code remains in its eminently readable form for ease of analysis and debugging. Optionally, a cross-reference listing may also be produced.

TBA also offers "conditional translation." This allows whole sections of code to be selected or deselected during processing. "Machine-dependent" code becomes much easier to produce.

Order L-21-010 for LDOS 5.1, or L-21-011 for TRSDOS 6 (LS-TBA).

LOGICAL SYSTEMS INC.

BSORT / MOD324

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

This package contains two utilities for the TRSDOS 6 BASIC programmer. BSORT is a high performance machine-language sort utility that will perform almost any type of sort on almost any BASIC array. MOD324 is a utility that will perform much of the work involved in converting Model 3 Disk BASIC programs to the Model 4 format.

BSORT will sort almost any number of one or two-dimensional BASIC arrays - and not just string arrays either. Integer and single/double precision arrays may also be sorted. Multiple key arrays may be specified, and the sorting can be done in either ascending or descending order. Tag arrays (those that do not affect the sort, but merely follow along) may also be specified. BSORT can also create an index array, without affecting the order of the elements in the "sorted" array. For string arrays, "midstring" parameters allow sorting based on a portion or "midstring" of the key array elements.

MOD324 is a fast, assembly-language program that will help adjust Model 3 programs for use under Model 4 Disk BASIC. MOD324 inserts necessary spaces, and will also flag any lines that contain statements that are likely to cause a problem on the Model 4. MOD324 will even adjust PRINT @ and PRINT TAB locations automatically if desired.

Please note that BSORT requires TRSDOS 6.1.2 or 6.2.Ø for proper operation.

LOGICAL SYSTEMS INC.

DiskDISK

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

The LSI diskDISK utility package allows the creation of "logical disk partitions" as files on a physical disk drive. An excellent utility for large-volume (eighty track or double sided) floppy drive owners, diskDISK is almost indispensable for hard disk users too.

Once a diskDISK file is "installed" into a logical drive slot, the diskDISK can be used just like any other physical drive, and there are no restrictions as with other concepts of "partitioning." Almost all operating system functions are available as though this file were an actual physical drive. Also, a diskDISK file can be made a system disk, and/or SYSGENed in place.

With diskDISK, you can easily group related files for ease of maintenance. DiskDISK files can also be set up as "images" of physical drives to allow mirror image backups to your physical floppies, or as special drive types that allocate in one or two sector granules for maximum storage efficiency.

The advantages of using diskDISK simply can't be overstated, and should be considered a must for hard disk owners. Order L-35-211 for LDOS 5.1, and L-35-212 for TRSDOS 6 (LS-diskDISK).

FED 86 -File EDitor 86

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

FED 86 is the LSI all-purpose File and disk EDitor for the IBM-PC and PC-compatible machines running under MS-DOS or PC-DOS (version 2.X required).

Any byte in any given file or disk can be displayed and/or altered. The display information in file mode includes: 256 byte record display, file name and drive number, record number and relative byte number within the current sector. In addition, the value of the byte under the cursor is displayed in hex, decimal and binary. In disk mode, the disk relative sector is displayed instead of the file name.

FED 86 also includes commands for: searching for hex or ASCII strings, a case-independent text search, sending a record or group of records to the printer and modification of the displayed data (either in hex or ASCII).

All in all, FED 86 is a tool that no MS-DOS user should be without. Even if these operations sound difficult, FED 86 makes them a snap!

LOGICAL SYSTEMS INC.

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

FED II - File EDitor II

FED II is the LSI all-purpose File and disk EDitor. Any byte in any given file or disk can be displayed and/or altered. The display information in either file or disk mode includes: 128 byte (5.1) or 256 byte (6.X) display, file name and drive number, record number (file mode) or track/sector (disk mode) and relative byte number within the current sector. In addition, the value of the byte under the cursor is displayed in hex, decimal and binary.

When examining a load module format (/CMD) file in the file mode, the load block types are decoded, and the load address of the current block or byte is displayed. In addition, if the cursor is positioned to a valid Z80 opcode, the instruction will be displayed in disassembled form.

FED II also includes commands for: searching (for hex or ASCII strings, or load addresses), printing (sectors or instruction disassembly) and modification (either in hex or ASCII). In addition, there are several commands for tracing through /CMD files.

All in all, FED II is a tool that no LDOS 5.1 or TRSDOS 6 user should be without. Even if these operations sound difficult, FED II makes them a snap! Order L-30-011 for LDOS 5.1, or L-30-012 for TRSDOS 6 (LS-FED II).

LOGICAL SYSTEMS INC.

Filter Package #1

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

Filter Package #1 contains a series of fourteen different filters and utilities for use in conjunction with the LDOS 5.1 operating system. These are all useful programs, and are also excellent examples of how to write programs for LDOS, as full assembler source is included. Filter #1 contains:

XLATE/FLT	A complete translation filter system for input or output. Included are tables for EBCDIC and DVORAK translation. Custom tables are easily built for any application.
LISTBAS/FLT	LBASIC program formatting filter for the printer.
STRIP7/FLT	Strips the high-order bit off all filtered characters.
STRIPCNT/FLT	Replaces output characters above X'7F' or below X'20' with a #.
MONITOR/FLT	As above except bytes below X'20' are output as % followed by the ASCII character plus X'41' (display control characters).
TITLE/FLT	Prints user-defined title after any X'0C' sent to *PR.
UPPER/FLT	Any lower-case character (a-z) is converted to upper (A-Z).
LOWER/FLT	Any upper-case character (A-Z) is converted to lower (a-z).
SLASH0/FLT	For printers that can backspace. Zero is translated to a zero, a backspace, and then a slash.
TRAP/FLT	Any user-defined character can be trapped and thrown away.
LINEFEED/FLT	Adds or removes linefeed after carriage return for any device.
PAGEPAWS/FLT	Waits for [ENTER] from the keyboard after a X'0C' sent to *PR.
CALC/FLT	*KI filter - HEX/DEC/Binary conversion and HEX add/subtract.
REMOVE/CMD	Removes all occurrences of a specified byte from a file.

LOGICAL SYSTEMS INC.

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

Filter Package #2

Filter Package #2 contains a series of nine different filters and utilities for use in conjunction with the LDOS 5.1 operating system. These are very useful programs, and are excellent examples of how to write programs for LDOS, as full assembler source is included. Filter #2 contains:

COMM1/FLT	Communications filter - tests for modem carrier, provides delay between characters, linefeeds and nulls.
DICTATE/FLT	Toggles cassette remote control signal from the keyboard.
DOSPEED/FLT	Regulate the speed of any output device from the keyboard.
KSMPLUS/FLT	Same as LDOS KSM, but allows key re-definition "on-the-fly" from the keyboard. Also includes "command repeat" and more.
LCOUNT/FLT	Adds a line number before each line sent to an output device.
MARGIN/FLT	Similar to MARGIN (PR/FLT), but sends two-char ctrl sequences before sending margin spaces (needed on some printers).
MAXLATE/FLT	Similar to XLATE on Filter #1, but allows each character to be translated to a group of characters. This is a very useful filter, and by itself is worth the cost of this package.
SLOSTEP/FLT	Disk driver filter for drives that require additional settling time. This has been included in the drivers on 5.1.4 (except Model 1), but is included for Model 1 and as a good example of how to interface to the disk drivers.
VIDSAV/CMD	Filters both *KI and *DO for commands to save the current video screen in high memory, restore a saved screen, or swap the existing screen with a saved one.

LOGICAL SYSTEMS INC.

FIX Disk II

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

The LSI Fix Disk II is a compendium of patches to allow various Radio Shack (and other) programs to run under LDOS. These include both patches for normal operation and some operational enhancements. The Fix Disk includes patch files for the following programs:

Mod 1 SCRIPSIT v1.Ø, Mod 3 SCRIPSIT v3.2, Electric Pencil (original version, NOT 2.Øz), Mod 1 VisiCalc v1.2Øz, Mod 3 VisiCalc (the un-Enhanced version), Mod 3 VisiCalc (enhanced versions 15Ø and 16Ø), RSCOBOL v1.3b, RSBASIC v2.4, Mod 1 MACRO8Ø v3.43, Mod 1 BASCOM v5.23, Mod 1 FORTRAN v3.42, Mod 3 FORTRAN (only EDIT needs patching), RS Desktop Plan, RS Business Mailing List, and patches for Profile 3+, hard disk version Ø1.ØØ.ØØ or Ø1.ØØ.Ø1, to allow use on the Mod 1 with double density on hard disk or floppy (min. two drives).

Most of the Model 1 programs will run on either the Model 1 or 3 under LDOS once patched. This disk and a copy of Model 3 LDOS would prove a very good choice for those moving up from a Model 1 to a Model 4 or 4P.

LOGICAL SYSTEMS INC.

FM - File Manager

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

FM is the LDOS/TRSDOS 6 File Manager. With FM, file operations that would normally take many different steps can often be done in a single command. FM has four basic modes: Display, Kill, Move and Remove. The first three correspond roughly to the normal system commands of DIR, PURGE and BACKUP-by-class. The last mode is a combination of BACKUP-by-class and PURGE. When using REMOVE, files copied to the destination disk are then purged from the source disk.

There are several major advantages to using FM. First, FM supports the use of more advanced wildcarding and parameter specifications than BACKUP or PURGE. With these features, files are easily grouped into meaningful classifications based on attributes, dates, names or even size. Comparisons can be made between two or even three drives. Also, FM is *FAST*! FM is usually at least fifty percent faster than BACKUP-by-class, and still does a full read verify. Lastly, FM does not abort automatically on a disk error. The I/O operation that caused the error may be reattempted if desired.

One additional feature of FM is that it can be used to create a file containing the filenames that matched any particular set of criteria. In addition to the filespecs, arbitrary "strings" may also be written to the file, preceding and following the selected filespec. This allows FM to "write" JCL files to perform even more complex functions.

FM should be considered a must for Hard Disk owners, and all users will find that FM is a tremendous help in day-to-day operation. For LDOS 5.1 order L-30-050, and order L-30-051 for TRSDOS 6 (LS-FM).

LOGICAL SYSTEMS INC.

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

The LSI HELP System

The LSI Help System allows the user to get help regarding the operating system or BASIC easily at DOS Ready, or from inside of most programs. The base HELP system (LDOS HELP) includes three HELP programs, and two different HELP data files.

The data files are: LDOS HELP, covering the operating system itself, and BASIC HELP, covering the BASIC supplied with the operating system. Getting help is as easy as typing **HELP LDOS SYSTEM [enter].** Help information will now be displayed for the SYSTEM command. HELP will automatically pause between screens until told to continue. The help information may also be sent continuously to the printer.

By using one of the two resident HELP programs supplied, help may be requested from inside most programs by pressing the key combination [clear][shift][H]. At this point, the keyword you desire information about may be entered.

In addition to user information regarding the operating system, technical help regarding the operating system and Z-80 assembly language programming can be obtained by purchasing the TECHNICAL HELP package. Other than the subject matter, the functions of HELP remain the same.

The last element of the HELP system is the HELP Generator. With this package, anyone can produce extra help files that can be used in conjunction with the other two HELP packages. A text editor is required but not included, LED or LSCRIPT (LDOS patched SCRIPSIT) is recommended. For special customization needs, HELP TEXT Source is available. This package contains the text files that were used to produce the data files supplied with the HELP and TECHNICAL HELP systems, and is to be used with the HELP Generator.

The LDOS Help package includes a twenty panel, four-color quick reference card for

(over)

LDOS 5.1 that is also available separately as L-40-060.

Because of the vast wealth of information supplied with the HELP system, at least two double-density disk drives are recommended as a minimum system.

Catalog #	Product Name	DOS
L-30-060	LDOS HELP	5.1
L-30-080	Technical HELP	5.1
L-30-070	HELP Generator	5.1
L-31-010	HELP text source	5.1
L-30-061	LS-LDOS HELP	6
L-30-081	LS-Technical Help	6
L-30-071	LS-HELP Generator	6
L-31-020	LS-HELP text source	6
L-40-060	Quick Reference Card (included with L-30-060)	5.1

5.1 refers to LDOS 5.1, and 6 refers to TRSDOS 6

LOGICAL SYSTEMS INC.

LS-Host/Term

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

LS-Host/Term is a comprehensive disk-based RS232 communications package for use under TRSDOS 6 on the TRS-8Ø Model 4/4P. This package includes a complete Host system that can be used independently or in conjunction with the terminal portion of the package. The terminal program, called ADDS25, is set up to look like a Radio Shack DT-1 emulating an ADDS-25 terminal. Full cursor positioning, reverse video and blinking fields are supported. LS-Host/Term includes all the features of COMM, to make this emulation of the ADDS-25 much more than "just a terminal." Full upload and download capabilities are available for file transfer, as well as spooled printer support (both simultaneous and transparent). This package is ideal for communications with a Model 16 running under XENIX.

The LS-Host/Term package also includes a version of XMODEM for error-free file transfer between systems running LS-Host/Term, or any other programs/systems using the MODEM7 protocol. 'C' source for such a utility to run under Unix/XENIX is available in the public access database of CompuServe.

The Host portion of the package allows your Model 4 to be operated remotely from another Model 4 or an ADDS-25 type terminal with full remote video effects and cursor positioning. Other terminal types can be used, but all video functions may not be operational on the remote. A password can be required for log-in, and the host parameters are completely configurable (linefeeds, nulls, ...).

LOGICAL SYSTEMS INC.

Inventory Master

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

The Inventory Master System has been modeled after a proven main-frame system and is designed to aid the user with inventory tracking in a retail operation.

The system maintains all in-stock, re-order and minimum-to-stock quantities as dictated by the user and sales history. In addition, the system tracks quantity sales of items according to present month, year and previous year. A rotating quarter system is used to track quarterly sales for up to one year. Dollar figures for month, year and previous year are also maintained.

Up to 2700 stock items may be tracked. Items are grouped according to vendor, and are kept in sorted order according to part number. In addition, a "selection code" may be assigned to track similar items from more than one vendor.

Reports include: Standard "deck" printout (alpha), recommended order, out-of-stock SKUs, orders outstanding, overstocked SKUs, cost/price information and sales reports. Summary reports are generated by monthly, quarterly and annual processing.

Orders may be placed manually or computer-generated. Computer-generated orders may be produced based on MIN/MAX or sales history. Once the computer order is generated, it may be edited by the user. Orders may be generated for all items, or only for a specific vendor.

Ordering and sales entry are done in "batch mode" to minimize the time that the user must actually spend at the keyboard. Orders received may be earmarked for filling customer backorders or for stock.

Limits of the Inventory Master System: 2700 stock items (SKUs), 190 sales entries per "batch" and in stock and on order quantities up to 10,000. Total sales (quantity) per year

(over)

per item of up to 30,000 and (dollar value) up to $1,000,000.

Inventory Master was written in a combination of BASIC and assembly language. The assembler portions provide for very fast, versatile text entry and sorting, while the remainder of the program is in BASIC for ease of customization by the experienced user.

Inventory Master for the TRS-80 Model 3 is supplied on a run-time version of the smal-LDOS operating system, or may be moved to the full LDOS system.

LOGICAL SYSTEMS INC.

LDOS 5.1

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

LDOS 5.1 is the latest generation operating system for the TRS-80 computers. LDOS supports single and double density, single and double sided disk drives. All disk drive parameters may be adjusted to optimize performance on almost any given hardware. Both the PERCOM and Radio Shack types of double density adapters are supported on the Model 1. Disk formats are directly interchangeable between versions of LDOS 5.1, so files may be easily transported from one machine to another.

The documentation for LDOS is both extensive and complete. The (over) 350 page manual covers almost every phase of daily operation, and comes with complete technical information. Many examples are given for almost all library commands and utilities.

All the features of the LDOS system could not possibly be covered in this small space, but some of the highlights are: a complete RS-232 communications package, user-definable keys, "Date-stamped" files, Job Control Language, Print Spooler, Print formatter, keyboard Type-Ahead and much, much more.

The disk BASIC supplied with LDOS is designed for fast operation, and includes many features that will appeal to both the experienced programmer and the novice. Single-keystroke commands and a cross reference utility provide for fast program editing and debugging. A fast machine-language sort is included.

For any specific questions, or more information, please contact us here at LSI. Order L-10-010 for the Model 1, and L-10-030 for the Model 3, or operation on the Model 4 or 4P in the Model 3 mode. Model 3 LDOS will take advantage of the faster clock speed of the Model 4 when running in the Model 3 mode.

LOGICAL SYSTEMS INC.

LED - the LSI text EDitor

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

LED is the LSI text EDitor, and is a screen-oriented editor designed to take full advantage of the LDOS operating environment. It can be used for all types of ASCII files, including program source code (BASIC, TBA, assembler) as well as JCL and KSM files. All LDOS special features work with LED, including type-ahead and KSM.

The LED display includes as much of the text as will fit on the screen as well as the file name, current cursor column, the hex value of the character under the cursor and the available memory left for the text buffer. Cursor movement and text scrolling is accomplished by the use of the [arrow] keys and [clear] [arrow] combinations.

Text entry includes both insert and overtype modes. A special "hex" mode can be used to enter any character, even those not normally available from the keyboard. "Blocks" and "Block mode commands" allow the speedy manipulation of large text areas. "Global Search" and "Search/replace" allow for quick and easy alterations.

In addition to the above commands, LS-LED for TRSDOS 6 includes "write marked-block to disk" and "insert disk file at cursor" commands. These make the maintenance of "boiler-plate" material and subroutine libraries very simple.

Order L-30-020 for LDOS 5.1, or L-30-021 for TRSDOS 6 (LS-LED).

LOGICAL SYSTEMS INC.

Mail/File Series II

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

The Mail/File Series II System is a complete mailing list management system for the small list user. No effort has been spared to provide for maximum operator ease, while retaining overall system flexibility.

The maximum capabilities of the Mail/File System are as follows:

Model 1	600 names per file
	1000 names per file (in double density)
Model 2	2500 names per file
Model 3	1200 names per file

Nine data fields are maintained, including an eleven character zip field, telephone number field and a user-defined selection code field. All records are under a constant sort both by zip code and alphabetically by name. Each record is sorted into the system when entered, with an average wait of about five seconds. Deletions are performed within five seconds, no matter how many records are in the list.

The label formats available from Mail/File include: three line labels and four line labels with optional user-specified message line, in either single or multiple across formats. Records may be selected in any given print session by alpha, zip or user code criteria. ZIP code changes may be identified during printing if required. The total number of records printed is always included in any print operation, and the number of records meeting any given set of criteria may be obtained without actually printing.

Report formats include both 80 column and 132 colum listings, and there is also a user-defined format that can be configured with up to 16 lines per record. Optionally, the user may request a printout of records as they are added to the system.

The Mail/File system was written in a combination of BASIC and assembly language. The assembler portions provide for very fast, versatile text entry and sorting, while the remainder of the program is in BASIC for ease of customization by the experienced user.

The Mail/File System for the TRS-80 Models 1 and 3 is supplied on a run-time version of the smal-LDOS operating system, or may be moved to the full LDOS system. The Mail/File System for the Model 2 or 12 is designed to run only under TRSDOS 2.0a or TRSDOS 2.0b. On the Models 1 and 3, at least two disk drives are recommended.

Catalog #	Description	Operating System
L-50-010	Mail/File Model 1	Supplied on smal-LDOS
L-50-020	Mail/File Model 2/12	TRSDOS 2.0a or 2.0b ONLY
L-50-030	Mail/File Model 3	Supplied on smal-LDOS

LOGICAL SYSTEMS INC.

MemDISK I/O Monitor

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

MemDISK is a special purpose disk driver that will emulate a disk drive using a portion of the main memory bank in any LDOS 5.1 system. This RAM-based "disk" may be accessed as a normal disk drive using COPY, BACKUP, DIR or almost any other LDOS function. The only difference is that it's *MUCH* faster. Please note that this utility is for use with main memory only, and will not access or utilize the "extra" memory bank of the MAX-80 or TRS-80 Model 4/4P.

One additional bonus is that MemDISK comes with complete assembler source code. This gives the assembly language programmer (beginner or expert) an excellent example of how a disk driver is written. This is a great starting point for all sorts of special drivers or applications. Order L-30-040.

I/O Monitor is a disk I/O error monitor filter designed to run with the LDOS 5.1 operating system. When I/O Monitor is installed, any disk error that occurs will be intercepted and the operator will be given four options.

The "Abort" option will cancel the I/O attempt, normally returning control to LDOS Ready. The "Continue" option will proceed with the normal I/O path, normally passing the error back to the program that requested the I/O. The "Ignore" option will ignore the error code, and attempt to continue with the operation as if no error had occurred. The "Retry" option will re-attempt the operation that caused the error. Order L-30-030.

LOGICAL SYSTEMS INC.

Publications

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

LDOS Quarterly/LSI Journal Back Issues and other Publications/materials:

Catalog #	Description	Notes
L-49-104	LDOS Quarterly Vol 1-4 Apr 82	Supply low
L-49-105	LDOS Quarterly Vol 1-5 Jul 82	Supply VERY low
L-49-106	LDOS Quarterly Vol 1-6 Oct 82	Supply low
L-49-201	LDOS Quarterly Vol 2-1 Jan 83	Supply good
L-49-202	LDOS Quarterly Vol 2-2 Apr 83	Supply good
L-49-203	LDOS Quarterly Vol 2-3 Jul 83	Supply good
L-49-204	LSI Journal Vol 2-4 Oct 83	Supply good
L-49-205	LSI Journal Vol 2-5 Jan 84	Supply good
L-49-206	LSI Journal Vol 2-6 Apr 84	Supply good
L-40-039	LDOS manual pages - exchange (send old pages with order)	
L-40-020	LDOS manual pages - purchase (Registered owners only)	
L-44-025	LDOS manual index tab set	replacement
L-40-040	smal-LDOS Manual	
L-44-010	LSI binder - small (1 inch)	
L-44-020	LSI binder - large (3 inch)	
L-40-600	Other product manuals - purchase	(specify)
L-40-700	Other product manuals - replacement	(specify)

LOGICAL SYSTEMS INC.

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

QuizMaster

QuizMaster is an educational/informational question and answer program that can also be used as a game. Multiple choice questions are displayed, and operator response is scored based on speed and accuracy. There are three skill levels.

Both the order of the questions and the sequence of the answers are randomized to prevent memorization. Extended play provides a "sudden death" mode for the "informed" user.

QuizMaster comes with three subject files of 100 questions each: U.S. Info, General trivia and Fantasy/Science Fiction. These files can be edited and questions can be added, up to 255 question/answer sets per file. Users may also generate their own question/answer set files.

QuizMaster is educational, interesting and addictive. QuizMaster runs only under the LDOS or smal-LDOS operating system to provide for maximum performance. Optionally available are QuizMaster Subject Modules. Each derive their material from grades 6-9 textbooks.

Order QuizMaster for LDOS 5.1 as L-51-500. The Geography Subject Module is available as L-51-620 and the General Math Subject Module is available as L-51-650. Please note that the Subject Modules require but do not include QuizMaster.

LOGICAL SYSTEMS INC.

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

LS-QFB / COMP

This package contains two utilities for the TRSDOS 6 user. LS-QFB is a high performance machine-language utility that will Quickly perform a Format and Backup operation in a single step. LS-COMP will perform a byte by byte comparison between any two disks or files.

LS-QFB is designed to perform a mirror-image backup in the minimum time possible, and does not require that the destination disk be formatted first. Each cylinder on the destination disk is formatted, and the information is then transferred from the source disk to the destination disk. The data on the destination disk is then verified as readable. Optionally, a second verify may be done while stepping the head back out after the backup is completed.

LS-COMP is designed to perform a byte-for-byte comparison between two given files or diskettes. A complete listing of the discrepancies can be sent to either the video display or to the printer. Taken together, LS-QFB and LS-COMP are excellent tools for any TRSDOS 6 user that deals with large diskette libraries or large amounts of data.

LOGICAL SYSTEMS INC.

smal-LDOS 5.1

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

smal-LDOS is the less expensive version of the latest generation operating system for the TRS-8Ø computers. smal-LDOS supports single and double density, single and double sided disk drives. All disk drive parameters may be adjusted to optimize performance on almost any given hardware. Both the PERCOM and Radio Shack types of double density adapters are supported on the Model 1. Disk formats are directly interchangeable between versions of smal-LDOS and LDOS, so files may be easily transported from one machine to another.

The documentation for smal-LDOS is both extensive and complete. The (over) 15Ø page manual covers almost every phase of daily operation. Many examples are given for almost all library commands and utilities.

All the features of the smal-LDOS system could not possibly be covered in this small space. smal-LDOS includes almost all of the run-time features of the full LDOS system, but does not include all of the development utilities. Some of the highlights are: "run-time" Job Control Language, Print formatter, keyboard Type-Ahead and much, much more.

The disk BASIC supplied with smal-LDOS is designed for fast operation, and includes many features that will appeal to both the experienced programmer and the novice. Single-keystroke commands provide for fast program editing and debugging. A fast machine-language sort is included.

For any specific questions, or more information, please contact us here at LSI. Order L-11-Ø1Ø for the Model 1, and L-11-Ø3Ø for the Model 3, or operation on the Model 4 or 4P in the Model 3 mode. Model 3 smal-LDOS will take advantage of the faster clock speed of the Model 4 when running in the Model 3 mode.

LOGICAL SYSTEMS INC.

LS-DOS/TRSDOS 6 - "The Source"

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

This may be the first time that complete source code for such a sophisticated operating system has been made available to the public at a reasonable price.

This set of manuals includes the full assembler source code for the LS-DOS/TRSDOS 6.2 operating system. Each is soft-bound, 8½ by 11, and is available separately by stock number, or in a complete set as L-60-020.

L-60-011 Volume Number 1 - The SYSTEM
L-60-012 Volume Number 2 - The LIBRARIES
L-60-013 Volume Number 3 - The UTILITIES

L-60-020 Complete set of all three volumes.

Projected availability June 1984

LOGICAL SYSTEMS INC.

Ultra-Trek

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

Ultra-Trek: The Starship Enterprise was on routine patrol in the Gamma-Ophiuchi sector. It was somewhat unusual for one of the twelve elite Starships to resort to boundary police action, but the entire 49 sector Quadrant had been the scene of numerous sabotage operations by rings of Klingon agents. The resulting arrests and interrogation had revealed little explanation for the upsurge in treasonous acts. It was, therefore, necessary to reinforce the existing Federation Sector Task Force by sending in the Enterprise. It was felt that the presence of so powerful a force would make all potential agents and provocatuers wary of further action.

What is needed is someone to command the Enterprise in this endeavor. Be prepared, however, because the enemy doesn't play dead in this game.

Ultra-Trek is a logical game intended for the serious game player. The player is under constant duress, because the enemy really means to destroy the Enterprise. Considerations to be made while commanding include: supply levels, status of operating systems and relative ship positions.

Ultra-Trek is for the TRS-80 Model 1, 3 or LOBO MAX-80, and comes with a seventeen page story/reference manual.

LOGICAL SYSTEMS INC.

Utility Disk #1

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

Utility Disk #1 contains a series of fourteen different utilities for use in conjunction with the LDOS 5.1 operating system. Utility #1 contains:

COMP/CMD	File/disk byte-for-byte compare. Differences to video or *PR.
DCT/CMD	View or modify the Drive Code Table for any drive. Very handy when developing disk drivers for non-standard drives.
DIRCHECK/CMD	Checks directory structure/corrects most recoverable errors.
FIXGAT/CMD	Builds a new Granule Allocation Table from user-supplied information. Works in conjunction with DIRCHECK.
HIGH/CMD	Displays a map of high memory allocation. Modules are identified by the standard LDOS header if present.
MAKE/CMD	Similar to CREATE, but file can be filled with any given byte, the file can be closed (EOF set) and the CREATE flag toggled.
MAP/CMD	Displays/Prints the allocation (granules or cylinders and sectors) of a file.
RAMTEST/CMD	RAM test - self-relocating - tests X'4000' to end of memory.
RDTEST/CMD	Non-destructive forced read of an entire diskette.
READII/CMD	Displays directory or moves files from a Model 2 TRSDOS 2.0a diskette. Requires eight-inch, double-density capability.
READ40/CMD	Allows read-only access to forty cylinder diskettes in an eighty cylinder drive by double-stepping (96 TPI only).
TYPEIN/CMD	Combines the functions of JCL and KSM. Allows most programs that won't normally accept JCL to be controlled automatically. This includes programs such as LSCRIPT and Profile 3+, HD version.
UNKILL/CMD	Recovers files accidentally KILLed or PURGEd.
WRTEST/CMD	Forced write test for all sectors on a given diskette.

LOGICAL SYSTEMS INC.

The LS-Utility Disk

8970 North 55th Street/P.O. Box 23956/Milwaukee, WI 53223/(414) 355-5454 ©1984

The LS-Utility Disk can be considered as "the best of 5.1 for TRSDOS 6." It includes the majority of the most popular filters and utilities from our 5.1 Filter Disks #1 and #2, and our Utility Disk #1. The programs included with the LS-Utility Disk are:

PRCODES/FLT	On printers that will backspace, provides for easy control of boldface and underlining, and also provides slashed zeros.
TRAP/FLT	Traps and throws away any user-defined character.
MAXLATE/FLT	A complete translation filter system for input or output. Included are tables for EBCDIC and DVORAK translation. Custom tables are easily built for any application, and a string of characters may be specified to replace a "match."
CALC/FLT	*KI filter - HEX/DEC/Binary conversion and HEX add/subtract.
KSMPLUS/FLT	Same as KSM, but allows key re-definition "on-the-fly" from the keyboard. Also includes "command repeat" and more.
RDTEST/CMD	Non-destructive forced read of an entire diskette.
READ40/CMD	Allows read-only access to forty cylinder diskettes in a eighty cylinder drive by double-stepping (96 TPI only).
TYPEIN/CMD	Combines the functions of JCL and KSM. Allows most programs that won't normally accept JCL to be controlled automatically.

Projected availability June 1984

Catalog Price List

L-10-010	LDOS 5.1 Model 1	69
L-10-030	LDOS 5.1 Model 3	69
L-11-010	smal-LDOS 1	39
L-11-030	smal-LDOS 3	39
L-21-010	The Basic Answer	79
L-21-011	LS-The Basic Answer	79
L-30-011	FED II	49
L-30-012	LS-FED II	49
L-30-020	LED	49
L-30-021	LS-LED	49
L-30-030	I/O Monitor	29
L-30-040	MemDISK	39
L-30-050	FM	49
L-30-051	LS-FM	49
L-30-060	HELP - LDOS	29
L-30-061	LS-HELP - LDOS	29
L-30-070	HELP Generator	59
L-30-071	LS-HELP Generator	59
L-30-080	HELP - Technical	39
L-30-081	LS-HELP - Technical	39
L-31-010	HELP - Text Source	29
L-31-020	LS-HELP - Text Source	29
L-32-010	LS-QFB/Comp	49
L-32-050	Filter Package #1	39
L-32-051	Filter Package #2	39
L-32-070	Utility Disk #1	49
L-32-150	LS-Utility Disk	49
L-32-210	BSORT/MOD324	49
L-35-211	DiskDISK	99
L-35-212	LS-DiskDISK	99
L-35-281	LS-Host/Term	199
L-40-020	LDOS Manual Pages	39
L-40-039	LDOS Manual Pgs Exch	19
L-40-040	smal-LDOS Manual ONLY	19
L-40-060	LDOS Quick Ref Card	5
L-40-600	Prod. manual - 50% of retail	
L-40-700	Repl. manual - 25% of retail	
L-44-010	LSI Binder (small)	7
L-44-020	LSI Binder (large)	10
L-44-025	Index Tab Set	2
L-49-104	Quarterly 1-4 4-82	3
L-49-105	Quarterly 1-5 7-82	3
L-49-106	Quarterly 1-6 10-82	3
L-49-201	Quarterly 2-1 1-83	3
L-49-202	Quarterly 2-2 4-83	3
L-49-203	Quarterly 2-3 7-83	3
L-48-204	Quarterly 2-4 10-83	3
L-49-205	Quarterly 2-5 1-84	3
L-49-206	Quarterly 2-6 4-84	3
L-50-010	Mail/File II Mod 1	99
L-50-020	Mail/File II Mod 2	99
L-50-030	Mail/File II Mod 3	99
L-50-060	Inventory Master Mod 3	99
L-51-500	QuizMaster	39
L-51-620	QM Geography	19
L-51-650	QM General Math	19
L-55-010	UltraTrek	19
L-55-020	Captain 747 (Disk)	35
	LS-DOS "The Source"	
L-60-011	Volume 1 - The SYSTEM	99
L-60-012	Volume 2 - The LIBRARY	99
L-60-013	Volume 3 - The UTILITIES	99
L-60-020	Three Volume Set	249
L-70-110	Anthology Disk One	19
L-70-400	The FIX Disk #2	19
L-86-010	FED86	49

ORDERING INSTRUCTIONS

The following shipping/handling fees and order policies apply to all orders placed from this catalog, and all orders placed after June 1st, 1984. Order policy and shipping/handling charges may be altered at any time by LSI.

There is a five dollar charge for handling on each order. This charge will be waived on pre-paid orders placed for delivery in the United States. Pre-paid means "orders that include an enclosed check or money order."

In addition, there is a $1 per item shipping charge for shipping in the US, Canada and Mexico. This covers UPS ground or First Class Mail shipment (US) or Air shipment (Canada, Mexico). For any other shipping method, the additional shipping charges will be added to the order. If a premium shipping method is desired, please call and find out the additional amount to send. If the order is paid for by credit card, the correct total will be charged automatically.

Orders outside the US, Canada and Mexico must be paid by MasterCard or VISA, and the total shipping charges will be added to the order. No other form of payment will be accepted, due to the inability to accurately pre-determine shipping costs, and the additional cost involved in handling foreign bank drafts.

For all orders, the following discount policy will apply:

Quantity - mix or match	Discount Percentage
One	Net (Ø%)
Two	1Ø percent
Three	15 percent
Four	2Ø percent
Five or more	25 percent

LSI ORDER FORM

Name: _____

Company: _____ Date: _____

Address: _____

City: _____ State: _____ Zip: _____

Foreign: _____ Phone (9-5): _____

Payment: ☐ Check/MO (pre-paid) ☐ C.O.D. ☐ MasterCard ☐ VISA

Card Number: Expiration Date:

Signature:

Qty.	Catalog #	Description	Price	Extension

Total from other side	
Less _____% Quantity Discount	
Handling (strike out if pre-paid)	$5.00
_____ items times $1 shipping each	
WI, add 5% Sales Tax on total above	
Total Amount Due	

Prices and specifications subject to change without notice.

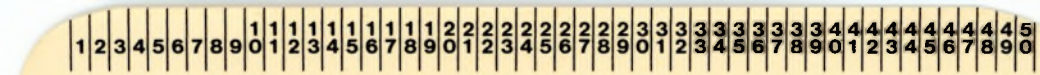
(over)

Qty.	Catalog Number	Description	Price	Extension
		Total - Carry forward to other side		

8970 North 55th Street
P.O. Box 23956
Milwaukee, WI 53223

(414) 355-5454

Toll Free Order Line— **(800) 248-3535**



10CPI

ASCII CHARACTER SET

LSD \ MSD	0	1	2	3	4	5	6	7
	000	001	010	011	100	101	110	111
0	0000	NUL	DLE	SP	0	@	P	`	p
1	0001	SOH	DC1	!	1	A	Q	a	q
2	0010	STX	DC2	"	2	B	R	b	r
3	0011	ETX	DC3	#	3	C	S	c	s
4	0100	EOT	DC4	$	4	D	T	d	t
5	0101	ENQ	NAK	%	5	E	U	e	u
6	0110	ACK	SYN	&	6	F	V	f	v
7	0111	BEL	ETB	'	7	G	W	g	w
8	1000	BS	CAN	(	8	H	X	h	x
9	1001	HT	EM	)	9	I	Y	i	y
A	1010	LF	SUB	*	:	J	Z	j	z
B	1011	VT	ESC	+	;	K	[	k	{
C	1100	FF	FS	,	<	L	\	l	|
D	1101	CR	GS	-	=	M	]	m	}
E	1110	SO	RS	.	>	N	^	n	~
F	1111	SI	US	/	?	O	_	o	DEL

Powers of Two Chart

Hexidecimal	Decimal	Exponent	Binary
2	2	1	0000 0000 0000 0010
4	4	2	0000 0000 0000 0100
8	8	3	0000 0000 0000 1000
10	16	4	0000 0000 0001 0000
20	32	5	0000 0000 0010 0000
40	64	6	0000 0000 0100 0000
80	128	7	0000 0000 1000 0000
100	256	8	0000 0001 0000 0000
200	512	9	0000 0010 0000 0000
400	1,024	10	0000 0100 0000 0000
800	2,048	11	0000 1000 0000 0000
1000	4,096	12	0001 0000 0000 0000
2000	8,192	13	0010 0000 0000 0000
4000	16,384	14	0100 0000 0000 0000
8000	32,768	15	1000 0000 0000 0000
10000	65,536	16	10000 0000 0000 0000

LSD → HEX AND DECIMAL CONVERSION

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	0
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	2
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	3
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	4
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	5
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	6
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	7
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	8
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	9
A	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	A
B	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	B
C	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	C
D	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	D
E	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	E
F	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	F
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	